(No Model.)

A. SUEUR.

AUTOMATIC CHECK FOR MUSIC BOXES.

No. 343,778. Patented June 15, 1886.

Fig. 1

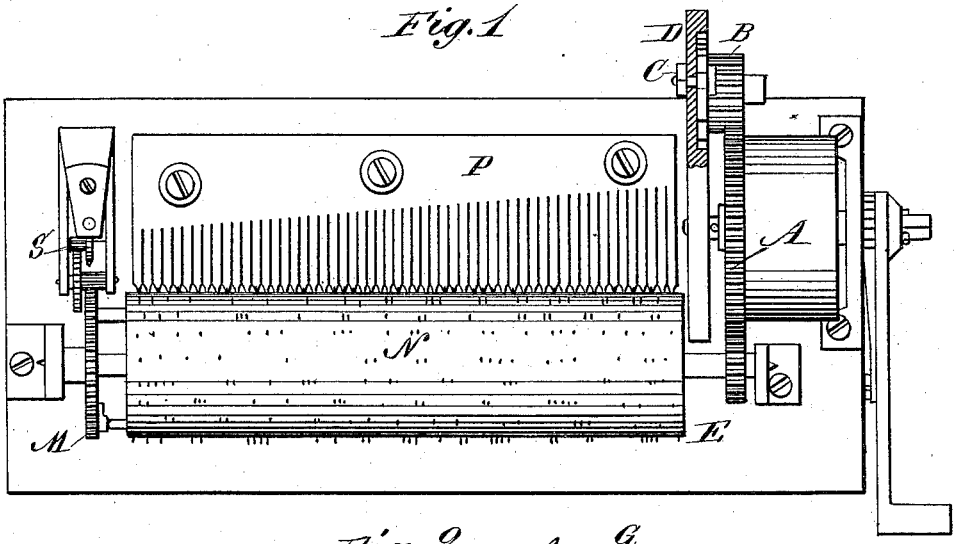


Fig. 2

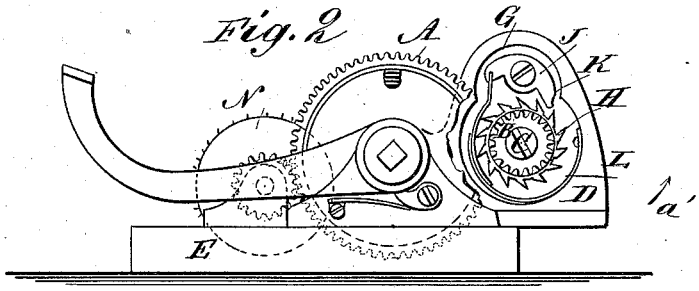


Fig. 3

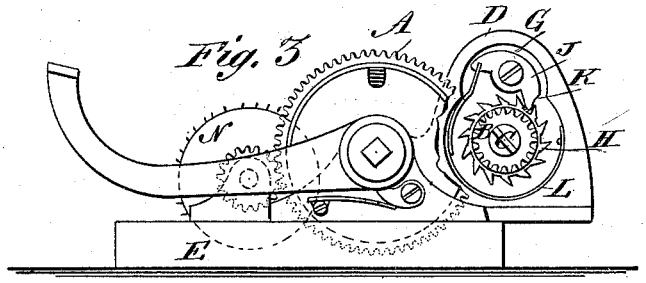
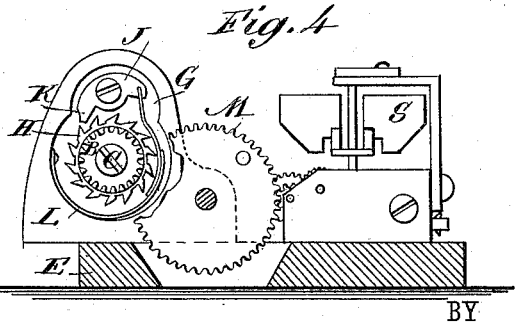


Fig. 4



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AUTOMATIC CHECK FOR MUSIC-BOXES.

SPECIFICATION forming part of Letters Patent No. 343,778, dated June 15, 1886.

Application filed October 24, 1885. Serial No. 180,839. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SUEUR, of the city, county, and State of New York, have invented a new and Improved Automatic Check for Music-Boxes, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved check for automatically locking the driving mechanism or the pin-cylinder of a music-box in case the flier mechanism is disconnected or the cylinder-bearing loosened, or the power-controlling mechanism is in any way disconnected from the spring, which check prevents a too rapid revolution of the pin-cylinder, and thus also prevents the consequent breaking of the pins and the teeth of the comb.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the mechanism of a music-box provided with my improved automatic check. Figs. 2 and 3 are end views of the same, parts being broken out and the locking-dog being shown in different positions. Fig. 4 is an end view of the mechanism, the check being arranged to lock the cylinder at the end at which the wheel for driving the flier is located.

The cog-wheel A, driven by a spring in the usual manner engages with the pinion B on the shaft C, mounted to turn in the standard D on the base-plate E of the music-box mechanism.

In one side of the standard D the recess G is formed, and in the same the ratchet-wheel H is mounted on the shaft C.

The pawl or dog J is pivoted on one side of the standard D in such a manner that it can engage with the teeth of the ratchet-wheel H, the end of said dog being rounded slightly, to form a cam-edge, K, the points of the teeth of the ratchet-wheel H acting on the cam-edge K of the dog J.

The spring L is connected with one end of the dog and holds the other end in such a position that the ends of the teeth of the ratchet-wheel can act on it.

As shown in Fig. 4, the pinion B engages with the cog-wheel M, which operates the flier mechanism.

The pin-cylinder N, the comb P, the flier S, and the driving-gear are all of the usual construction.

If desired, the ratchet-wheel may be formed on the end of the pin-cylinder.

The operation is as follows: The ratchet-wheel H is revolved in the direction of the arrow *a'*, Fig. 2, and as each tooth of the said ratchet-wheel strikes the cam-edge K of the dog J and presses the end of the cam in the direction from the edge of the wheel then the said tooth slides under the cam end of the dog and the spring L swings the dog toward the rim of the ratchet-wheel so far that the next tooth of the ratchet-wheel can act on it, and so on, the dog being swung outward by each tooth of the wheel H. In case the driving mechanism is in any manner disconnected from the flier or the cylinder-bearing is loosened, the cylinder is revolved very rapidly and the first tooth of the ratchet-wheel H that strikes the dog J forces the dog down into the recesses between two teeth, as shown in Fig. 3, and thus locks the cylinder in place and prevents the breaking of the cylinder-pins or the teeth of the comb. The teeth of the ratchet-wheel can only raise the dog J when the said wheel H and the cylinder revolves slowly.

I am aware that it is not new in music-boxes to provide a ratchet-and-pawl check to automatically act to lock the device when the cylinder and gearing revolve too fast, and I do not claim such, broadly, as of my invention.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a music-box mechanism, of a ratchet-wheel connected therewith and revolved thereby, a pawl adjacent to the ratchet-wheel, and a spring acting on the pawl and holding its free end in the path of the ends of the ratchet-teeth, to be raised slightly by said teeth, whereby when the music-box-operating mechanism is rotated too fast the

ratchet-wheel will revolve rapidly and force the pawl into locking engagement with a tooth thereof and stop the said mechanism, substantially as set forth.

2. The combination, with a music-box mechanism, of a ratchet-wheel revolved from the cylinder or the main driving-wheel, and of the dog J, having the cam-edge K on one end, substantially as herein shown and described.

ALFRED SUEUR.

Witnesses:
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